Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of Digital Audio Broadcast Systems and Their Impact on Terrestrial Broadcast Service	))))))	MM Docket No. 99-325

COMMENTS OF
BONNEVILLE INTERNATIONAL CORPORATION

Bonneville International Corporation ("Bonneville") hereby submits its comments in response to the Commission's December 19, 2001, *Public Notice* in the above-referenced proceeding. The *Public Notice* seeks comment on the National Radio Systems Committee ("NRSC") evaluation of the iBiquity Digital Corporation ("iBiquity") FM In-Band-On-Channel ("IBOC") Digital Audio Broadcast ("DAB") system.

I. STATEMENT OF INTEREST

Bonneville is a diversified media company that operates twenty radio stations (both AM and FM) in larger markets across the country.[1] Bonneville also has an ownership interest in iBiquity, the developers of the subject IBOC technology; and has been involved in the testing and selection process for a digital broadcast system since its infancy. A representative of Bonneville has served on committees, sub-committees, and chaired one working group in the DAB selection process. Bonneville's FM station in San Francisco, KDFC-FM, has been host to digital signal testing of a system similar to iBiquity's IBOC system. Bonneville's AM station, WTOP-AM, in Washington D.C., has tested an AM IBOC technology. Based upon its first-hand experience at these two

stations, Bonneville can confirm that IBOC technology works well from a technical standpoint and, thus, fully supports the conclusions drawn in the NRSC report regarding iBiquity's FM IBOC DAB system. For the reasons set forth below, Bonneville urges the Commission to promptly proceed with the adoption of IBOC technology as the digital solution for DAB in the United States.

II. TESTS HAVE DEMONSTRATED THAT IBOC WILL BE A SUCCESSFUL TECHNOLOGY

As mentioned above, KDFC-FM, in San Francisco, has undertaken IBOC digital signal testing. KDFC-FM incurred no degradation of analog audio quality; nor did it encounter coverage or interference problems in this testing.[2] Bonneville was particularly encouraged by (1) the quality of the digital broadcast, (2) the ease, speed, and effectiveness of the conversion to digital, and (3) the absence of interference complaints. Simply put, based on Bonneville's experience, IBOC is a workable technology.

In addition to its own testing of IBOC technology, Bonneville has been impressed with the NRSC's comprehensive evaluation of iBiquity's FM IBOC system and the NRSC's strong recommendation of the technology. The NRSC program was extremely thorough, analyzed all technological aspects of the iBiquity system, and concluded that the iBiquity system will significantly improve existing broadcast services. The NRSC's conclusion that the iBiquity IBOC system can be implemented without disruption to analog broadcasting is consistent with Bonneville's experiences with IBOC technology.

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[1] These stations are licensed to a Bonneville affiliated company.

[2] Bonneville station, WTOP-AM in Washington D.C. has also been IBOC-enabled. Interference to the station's analog audio quality and coverage has been minimal, and the digital signal shows a great prospect of being technologically successful in the future.

Moreover, Bonneville believes it is worth noting that the NRSC consists of representatives of past proponents of IBOC systems (Lucent, USADR, SDARS, DRE) and is also composed of major broadcast groups and representatives of the consumer electronics industry, including manufacturers of receiving equipment and broadcast equipment. The NRSC's work is also jointly sponsored by the NAB and the CEA. The body of individuals comprising the NRSC, more than any other group, includes a rich representation of the necessary knowledge and experience to examine the proposed IBOC system in question, and the Commission should place substantial weight on its recommendations.

III. ADOPTION OF iBIQUITY'S IBOC SYSTEM WOULD BE CONSISTENT WITH THE COMMISSION'S STATED GOALS IN THIS PROCEEDING

Consistent with its stated goals in this docket, the Commission should adopt iBiquity's IBOC technology to roll out terrestrial based DAB. The Commission's 1999 Notice of Proposed Rulemaking in this proceeding sets forth certain public policy objectives that the Commission stated it would utilize to guide it through its deliberations in its consideration of IBOC DAB.[3] Included among these objectives was a desire to adopt a DAB technology that would support a cost effective, vibrant and vital digital terrestrial radio service for the public, while maintaining spectral efficiencies, and fostering a rapid and non-disruptive transition to DAB for broadcasters and listeners.[4] Bonneville submits that the iBiquity IBOC DAB system is the best form of terrestrial DAB broadcasting to meet these stated objectives and provide a smooth transition to digital broadcasting in the United States.

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[3] *Digital Audio Broadcasting and Their Impact on Terrestrial Radio Broadcast Service*, MM Docket No. 99-325, *Notice of Proposed Rulemaking,* 15 FCC Rcd 1722, ¶¶ 16-19 (1999) (hereafter "*Notice"*).

[4] *Id*.

Specifically, the adoption of iBiquity's IBOC technology as the terrestrial DAB standard will have the prospect of being cost effective because it will enable consumers and broadcasters to upgrade to digital as part of the normal cycle of equipment replacement, without forcing local radio stations to change their dial position or consumers to immediately purchase digital receivers in order to continue to receive free, over-the-air radio services. In addition, Bonneville understands that new terrestrial digital receivers are not likely to be significantly more expensive than today's analog receivers.

iBiquity's DAB also will be spectrally efficient and administratively less burdensome to the Commission and broadcasters alike, because no new frequency allocations or licenses will be necessary to implement the proposed system. In Bonneville's view, disruptions to local service would be minimal with iBiquity's IBOC technology as stations can continue to broadcast both an analog and digital signal during the transition, and listeners with analog receivers will continue to receive service during this period. In sum, the transition of terrestrial radio broadcasting to digital utilizing iBiquity's IBOC technology would be seamless for broadcasters and relatively transparent to consumers.

IV. iBIQUITY'S IBOC SYSTEM MEETS OR EXCEEDS NINE OF THE TEN CRITERIA ESTABLISHED BY THE COMMISSIONS IN ITS NOTICE

Another reason Bonneville believes that iBiquity's IBOC technology should be adopted as the digital standard for terrestrial based DAB is that, as the NRSC report demonstrates, iBiquity's IBOC system meets or exceeds nine of the ten criteria established by the Commission in its *Notice*. The Commission's 1999 *Notice* stated that its evaluation of DAB models and systems would be predicated on the following specific criteria: (1) enhanced audio fidelity; (2) robustness to interference and other signal impairments; (3) compatibility with existing analog service;

(4) spectrum efficiency; (5) flexibility, (6) auxiliary capacity; (7) extensibility; (8) accommodation for existing broadcasters; (9) coverage; and (10) implementation costs/affordability of equipment. The NRSC evaluation of IBOC technology test data, submitted in its report to the Commission, demonstrates that the IBOC system proposed by iBiquity meets or exceeds the first nine of the ten criteria set forth by the Commission in its *Notice*. Bonneville submits that implementation of iBiquity's IBOC technology will similarly satisfy the Commission's tenth criteria concerning the affordability of implementation costs, once a standard is set and manufacturers can begin developing encoders and related equipment on a national scale to implement IBOC at broadcast stations.

V. ADOPTION OF iBIQUITY'S IBOC SYSTEM IS IN THE PUBLIC INTEREST

Adoption of IBOC technology as the digital solution to terrestrial based DAB would serve the public interest as it would ensure a rapid transition from analog broadcasts to a technically superior DAB system, with no new spectrum and no new allocations. Current broadcasters, with a rich history of service to the public in our country's free over-the-air broadcast system, deserve the opportunity to implement a digital system without disrupting the listening habits of their audiences.

Adopting IBOC technology for DAB further serves the public interest by providing a broadcaster the unique capability of maintaining the existing programming of its host analog station, while at the same time, immediately bringing high quality radio programming with a wide variety of formats to new digital receivers. In contrast, Eureka 147, the European DAB model, operates on different frequencies than those traditionally utilized by European broadcasters. After ten years of digital broadcasting in a new band with Eureka 147, Europeans have almost non-existent digital penetration into their radio markets. With IBOC DAB technology, on the other hand, the United

States has an opportunity to implement a new, free, digital over-the-air broadcast system, with an abundance of existing, quality programming. Moreover, IBOC technology provides radio broadcasters with a near-term entry solution into the digital environment because, unlike the European model, no new spectrum allocations are required. This will enhance the competitive viability of DAB and enable broadcasters to provide better service to the public.

Additional public interest benefits will be realized as a result of the technical advantages of the IBOC DAB solution. Improved sound fidelity produced by IBOC digital audio will allow FM stations to provide near CD-quality sound, which is now standard within the recording industry. Moreover, IBOC digital transmissions will enhance signal "robustness," which will translate into (1) greater immunity to impairments such as multi-path and noise; (2) additional resistance to natural and man-made obstructions; and (3) improved reception at the edge of signal coverage. Perhaps most importantly, implementing an IBOC system for radio will provide free, over-the-air, radio broadcasters, the opportunity to replace the analog portion of their signal with a system comparable to the 5.1 multi-channel broadcasts the Commission has adopted for digital television. No other terrestrial DAB system can boast the data capabilities necessary to fulfill this most important development.

In sum, adoption and implementation of IBOC DAB technology will ensure that consumers will enjoy a new listening experience, with a variety of programming choices, enhancing the attractiveness of local stations. This, in turn, will enable broadcasters to preserve the critical local news, information and public affairs programming that is the very heart of the nation's broadcasting system.

VI. TIME IS OF THE ESSENCE

For the public interest benefits described above to be realized, it is important that the Commission act expeditiously in this matter. Radio broadcasters face substantial technical challenges and significant competitive circumstances in the age of digital communications. Bonneville urges the Commission to implement the IBOC standard as soon as possible to provide broadcasters the ability to compete and be participants in this new environment. In so doing, the Commission will insure that the introduction of digital broadcast systems does not weaken the strength of our existing free, over-the-air radio broadcast service. In this regard, Bonneville cautions that if the Commission is slow to approve an IBOC standard in the existing broadcast band, broadcasters may be competitively disadvantaged by recently deployed digital audio satellite systems and ultimately the public would be denied the benefits of significant enhancements to our current free broadcast radio service.

VII. CONCLUSION

For the reasons set forth above, Bonneville supports the conclusion of the NRSC that the Commission should promptly proceed with selection of IBOC technology as the digital solution for the United States and urges the Commission to quickly adopt the iBiquity IBOC FM DAB system.

Respectfully submitted,

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